

REMARKS

Claims 1-32 are pending in the present Application. Claims 8 and 10-32 stand withdrawn as being directed to a non-elected invention. Claims 10-32 are canceled and new claims 33-35 are added.

Claim 1 has been amended to recite that the initiator feed and monomer feed are added to the reaction vessel after heating of the one or more reaction solvents. This is supported by the Specification at page 12, lines 20-24. Claim 1 has also been amended to recite that the recited steps produce the cross-linked polymer particles. Support for this is found throughout the Specification, such as in the Examples. New claim 33 is supported by claim 1 and by original claims 4, 7 and 10. Newly added claims 34 and 35 are supported by original claims 6 and 2, respectively. No new matter is added with this Amendment.

Claims 1-6 and (have been rejected under 35 USC § 102(b) as being anticipated by Cassatta et al. (US 4,533,681). Applicants respectfully traverse.

The Cassatta patent only teaches a two polymerization reaction to produce a cross-linked polymer. First, a *linear* polymer is prepared using a first polymerization initiator, such as described at column 12, lines 17-38. Next, the *linear* polymer is then further polymerized with a cross-linking monomer by combining the *linear* polymer with the cross-linking monomer and a polymerization initiator and then *coating* the mixture on a primed test panel and then *baking* to induce the cross-linking polymerization. See column 12, lines 39-47. Cassatta et al. do not disclose particle sizes or polydispersities because they do not prepare polymer *particles*, rather they prepare cross-linked *coatings*.

Further, the cross-linking polymerization of Cassatta cannot occur during the polymerization of the linear polymers as the cross-linking functionality is different from that used to form the linear polymer. Cassatta is quite clear on this throughout the patent. For example, see column 3, line 64 to column 4, line 6; column 6, lines 46-62 which clearly describes 2 polymerization reaction sequences; and also the examples. Also, the cross-linking reactions of Cassatta do not employ vinyl polymerization. See column 8, lines 57-67, which describe the various cross-linking reactions. None of these cross-linking reactions involve reactions between

ethylenically unsaturated monomers and cross-linking agents. In contrast, see the present Specification at page 10, lines 27-28.

In contrast to Cassatta, the present invention produces cross-linked polymer particles in one polymerization step. The one or more cross-linking agents and the one or more monomers of Applicants' invention are polymerized in the same reaction. Such is not taught by Cassatta et al. Applicants submit that their invention is not anticipated by Cassatta and respectfully request that this rejection be withdrawn.

Claim 7 has been rejected under 35 USC § 102(b) as anticipated by or, in the alternative, under 35 USC § 103(a) as obvious over Cassatta. Applicants respectfully traverse.

Cassatta is discussed above. Nothing in Cassatta teaches or suggests that cross-linked polymer particles be prepared in one polymerization reaction. Further, nothing in Cassatta teaches or suggests the particle sizes claimed by Applicants. Further, the cross-linked polymers of Cassatta are cross-linked on a surface to form a cross-linked coating. See column 12, lines 38-47. Still further, the cross-linking functionalities of the monomers used in Cassatta are different from the functionalities used to polymerize the monomers in the first step. See column 2, lines 54-63, which describes, e.g., "a first and second monomer being (i) first and second ethylenically unsaturated monomers each bearing functionality capable of crosslinking reaction each other . . ." Thus, the ethylenic unsaturation and the crosslinkable functionalities must be different. Accordingly, the polymers of Cassatta are not essentially the same and made in essentially the same manner as Applicant's polymer particles as posited by the Official Action. Applicants submit that the Examiner has not made out a prima facie case of obviousness and respectfully request that this rejection be withdrawn.

Claims 1, 2-6 and 9 have been rejected under 35 USC § 102(e) as being anticipated by Saethre (US 6,346,592). Applicants respectfully traverse.

The Official Action points to examples A4.1 and A4.2 of this patent as best depicting the process of Saethre. In these examples, it is clear that the monomer mixture was added to the


reaction vessel *before* the addition of the initiator (AIBN). Thus, the limitation of Applicants' claimed invention of adding the initiator feed *and* the monomer feed to the reaction vessel at a rate such that the concentration of the one or more monomers in the one or more reaction solvents is substantially constant is not met by the Saethre reference. Applicants submit that their claimed invention is not anticipated by Saethre and respectfully request that this rejection be withdrawn.

Claim 2 has been rejected under 35 USC § 103(a) as being unpatentable over Saethre. Applicants respectfully traverse.

Saethre is discussed above. Nothing in this patent teaches or suggests the Applicants required step of adding the initiator feed *and* the monomer feed to the reaction vessel at a rate such that the concentration of the one or more monomers in the one or more reaction solvents is substantially constant. Applicants submit that the Examiner has not made out a prima facie of obviousness and respectfully request that this rejection be withdrawn.

Applicants courteously request favorable consideration in the form of a notice of allowance.

Respectfully submitted,

A handwritten signature in black ink, reading "S. Matthew Cairns". The signature is written in a cursive, flowing style.

S. Matthew Cairns, Ph.D.
Attorney for Applicant
Registration No. 42,378

EDWARDS & ANGELL LLP
PO Box 55874
Boston, MA 022059
Date: